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SPACE GATEWAY SUPPORT (SGS) **SGS-08 17 43.00 99 (November 2006)**

Preparing Activity: SGS-DE **Superseding**
SGS 08 15 00.00 99 (April 2006)
SGS-08550J (February 2005)

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SGS GUIDE SPECIFICATIONS

References are NOT in Agreement with UMRL dated 09 October 2006

Revised throughout - changes not indicated by CHG tags
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11/06

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SECTION 08 17 43.00 99

INTEGRATED COMPOSITE DOOR OPENING ASSEMBLIES
11/06

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NOTE: This guide specification covers the requirements for integrated composite fiberglass reinforced plastic door opening assemblies, including frames and factory installed hardware.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.
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PART 1 GENERAL

1.1 STANDARDS

Comply with requirements for fiberglass reinforced plastic doors and frames as manufactured by Chem-Pruf Door Company, Brownsville, Texas or approved equal.

1.2 REFERENCES

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NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text are automatically deleted from this section of the project specification when you choose to reconcile

references in the publish print process.
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The publications listed below form a part of this section and the work requirements:

ASTM INTERNATIONAL (ASTM)

ASTM D 635	(2003) Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position
ASTM E 84	(2005) Surface Burning Characteristics of Building Materials

1.3 SUBMITTALS

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NOTE: Review submittal description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Keep submittals to the minimum required for adequate quality control. Include a columnar list of appropriate products and tests beneath each submittal description.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy, Air Force, and NASA projects.
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Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES in sufficient detail to show full compliance with the specification:

SD-02 Shop Drawings

Shop drawings to indicate location, dimensions, size, face materials, core construction, finishes and elevations for each door required. Mortises must not be cut out of the stile structure of jamb.

SD-04 Samples

Provide samples of each type of door construction, face material and finish required.

1.4 PRECONSTRUCTION REQUIREMENTS, DELIVERY AND STORAGE

Prior to the commencement of construction submit the following for review and approval:

Shop drawings
door construction samples
face material and finish samples

Deliver all materials to the site in sealed, undamaged containers fully identified with the manufacturer's name, project number, the tag location, the door type, color and weight. The doors and frames must be shipped in crates. Store materials in original cartons, on edge in such a way to prevent falling or damage to face, corners and edges. Replace defective or damaged doors or frames at no expense to the Government.

PART 2 PRODUCTS

2.1 DOORS

Make doors of fiberglass reinforced plastic using resins tailored to a specific corrosive environment and have a fiberglass content of 25% by weight. The doors must be flush construction, having no seams or cracks. All mortises must be molded in at the factory. The doors must be 1-3/4" thick with a 15 mil, ± 3 mils, color gel coat and have an R-factor of 12. Secondary painting over pultrusions to achieve color is not acceptable.

Stiles and Rails must be constructed starting from the outside toward the inside of a 15-20 mil gel coat of the color specified followed by a matrix of at least two layers of 1.5 ounce per square foot of fiberglass mat, plus one layer of fiberglass cloth. The stile and rail must be molded in one continuous piece to a U-shaped configuration and to the exact dimensions of the door (patented). In this matter there must be no miter joints or disparate materials used to form the one-piece stile and rail. Pultrusions are not acceptable for stiles and rails as (1) the color gel coat is not an integral part of the structure (it must of necessity be applied as paint when the structure is assembled), and (2) mortises must be cut into the pultrusions, thus weakening the pultrusions by removing as much as two-thirds of its thickness and (3) the practice of mitered joints in pultrusions leave access areas for penetration of contaminants to the inside to the door.

Door Plates must be molded in one continuous piece, starting with a 15-20 mil gel coat of the color specified, integrally molded with at least two layers of 1.5 ounce per square foot fiberglass mat and layer of 16 ounce per square yard unidirectional glass roving.

Reinforcement:

Use adequate reinforcing and compression members to accommodate surface hinges, closures, locksets, kickplates, push or pull plates. When engineering considerations dictate, mild steel is buried in the fiberglass matrix to provide enhanced screw-holding power. Do not use screws into fiberglass matrix to provide holding for hinges, locks or closures or any structural attachment.

Thru-bolting is recommended for attachment of hinges and closures inasmuch as the strength of thru-bolting is five to six times as great as edge attaching with screws. When thru-bolting is to occur, locate compression member to provide memory and resistance to the torque of thru-bolts.

All voids between the door plates must be completely filled with the equivalent of 4-6 pounds expanded polyurethane foam, having a flame spread of 25 or less per ASTM E 84. A phenolic coated kraft honeycomb may be substituted or urethane foam.

Flame Spread: All reinforcing resins must contain a halogenated additive of co-reactant plus Antimony Trioxide to achieve a flame spread of 25 or less per ASTM E 84 and must be self-extinguishing per ASTM D 635.

Frames:

Frames must be similar to the doors in construction and materials except the frames must be solid fiberglass. The stop and frame must be molded all in one piece. The frame must be integrally gel coated to the customer's color when molded. Mortises must be molded in. It is not permitted to rout in mortises or remove any material from the head or jambs to provide mortises.

Reinforcement for mounting hinges, closures, etc., must be of mild steel plates strategically located and buried in the resin-glass matrix so they are not exposed to the elements.

The jamb must be flat on the backside (against the opening) and uniform in thickness so as to provide a solid, uniform surface against the wall opening. No wood blocks or spacers are permitted.

Louvers must be identical to the doors in construction and materials. The fins must be solid fiberglass. Locate louvers as specified on drawings.

All transoms must be identical to the doors in construction, materials, thickness and reinforcement. Locate transoms as specified on drawings.

All hardware where applicable (locksets, hinges, closures, etc.) must be installed at the door manufacturing plant. Include the hardware manufacturer's warranty with the hardware installation. Refer to UFGS Section 08 71 00 for door hardware specifications.

The color of the door or frame must be integrally molded as the part is made and as indicated on the drawings.

PART 3 EXECUTION

3.1 INSTALLATION

Installation must be in strict compliance with manufacturer's written instructions using non-corrosive materials and methods.

Erect frames plumb and in true alignment; rigid and securely anchored in place. Install doors to achieve intended functional operation and appearance.

Clean entire installation and remove all marks which not a part of the factory specified finish.

-- End of Section --